FOREST PRACTICES

BACKGROUND

The timber industry is the third largest industry in Washington. Over 20 million acres of private, State and federal lands are managed for commercial harvest. The 8 million acres belonging to the State have recently been appraised as containing timber worth some $7 billion. Many State and county government programs receive financial support from timber sales. Of particular importance, the Timber Trust Fund finances the construction of new schools in the state. After a peak of over $350 million dollars in 1990, State timber revenues were just under $200 million in 1994. The following table shows the diversity of forest land ownership.

Table 5.2
ESTIMATED NUMBER OF FOREST OWNERS BY OWNERSHIP SIZE IN WASHINGTON

Ownership Size Class (Acres)	Number of Owners	Percentage of Owners	Number of Acres	Percentage of Forested Acres
1-49	76,300	83.5	1,104,000	11.4
50-499	14,000	15.3	1,426,000	14.7
500-999	600	.7	368,000	3.8
1000-4999	400	.4	529,000	5.5
5000+	100	.1	6,245,000	64.6
Total	91,400	100	9,670,000	100

From Thomas Burch, The Private Forest-Land Owners of the United States. 1994 Data Tables: West Review Draft, United States Department of Agriculture Forest Service, Northeastern Forest Experiment Station

Washington is one of the largest exporters of timber in the world. Products from Washington's forests include raw logs (most of which are exported to East Asia), other wood products (such as lumber and furniture), and pulp for papermaking. Many key national and international corporations have operations in the state.

Forest management techniques vary substantially depending on slopes, soils, water availability, tree species and ownership. Even-aged harvest is typical in western Washington. A combination of clear cut and selective harvest is used in eastern Washington.

Forest practices rules have been in place since the Forest Practices Act was updated by the legislature in 1974. The act and the associated rules were designed to improve reforestation and provide basic consideration for "public resources." The act has not changed substantially since that time, but the rules have undergone considerable revision. These revisions reflect the increased understanding and acceptance of the need to protect public resources while maintaining a viable timber industry in the state.

The Timber, Fish, and Wildlife (TFW) Agreement was initiated in 1986. Participants in the agreement include State agencies, tribes, landowners, and environmental groups. More recently, federal agencies (EPA, USFWS, USFS, and NMFS) and counties have been included in the process. TFW provides a framework, procedures and requirements for successfully managing the State's forests to meet the needs of a viable timber industry and at the same time protect public resources: fish, wildlife, and water as well as the cultural/archeological resources of Indian tribes within the state. Some of the issues are TMDLs and 303(d) listings, watershed analysis and other landscape approaches, riparian protection, road construction and maintenance, wetlands protection, forest chemical use, and conversion of forest land to other uses.

Since 1997, negotiations have been underway to address Clean Water Act (CWA) and Endangered Species Act (ESA) requirements through improved forest practices. In February 1999, rule proposals were made at the Forest Practices Board by the "5-caucus group" (county, State, and federal agencies, some tribes, and landowners). The proposal was called the Forests and Fish Report. The Forest Practices Board also received other proposals based on different views for buffer widths and changes to rules based on credible science. The legislature has since passed a bill that establishes most of the program elements outlined in the Forests and Fish Report, including landowner incentives and additional resources for agencies.

Local governments review specific harvest applications on State and private timberlands that involve a conversion of the timberland to some other land use or harvesting next to shorelines of the State. The Washington State Department of Fish and Wildlife (WDFW) requires a Hydraulic Project Approval (HPA) permit for any timber harvesting activity that occurs within or across the ordinary high water mark of waters of the State.

Several programs provide technical assistance and education to small timberland owners. The Natural Resource Conservation Service (NRCS), in conjunction with locally based conservation districts, helps timberland owners write forest conservation plans. The Forestry Incentive Program is administered by the NRCS and DNR provides technical assistance to timberland owners on forest production and habitat planning.

The management of federal timberlands is based on federal mandates. Washington State has agreements with the US Forest Service (USFS) and Bureau of Land Management (BLM) requiring protection of water quality on federal timberlands to meet or exceed the State's water quality standards.

Research is currently underway to determine the effectiveness of current best management practices (BMPs) for protecting water quality from timber harvesting activities. Included in the research are assessments of impacts to sediment, wildlife, and macro-invertebrates populations. Studies have been completed on the subjects of fertilizers, pesticides, and shade. These studies have resulted in improvements to both regulations and best management practices applied to timber harvesting. Research is ongoing.

Watershed analysis and other cooperative efforts have been underway for some time in Washington. These programs focus on the needs of a specific watershed basin and design practices that address those needs. The Watershed Analysis method developed by the Timber, Fish, and Wildlife participants is now covered by the Forest Practices Rules. It provides one of the first working models in the nation for watershed management and decision making. Resource Management Plans have also been used to coordinate voluntary efforts within two major watersheds.

In conjunction with the other goals of watershed analysis, a process is currently underway to evaluate the suitability of Watershed Analysis as a format for assessing the Total Maximum Daily Load (TMDL) of a basin. The two processes have many similarities and provide a method to address broad scale water quality issues in the forested environment.

Habitat Conservation Plans (HCPs) are being developed on both private and State lands. The DNR is implementing an HCP to address the needs of threatened and declining wildlife species for all State-owned lands in western Washington and the east slope of the Cascade Mountains. Several large private landowners are also developing HCPs which, among other benefits, will enhance riparian habitat and water quality protection. A pilot program, Landowner Landscape Plans, has been undertaken by DNR to accomplish large scale planning.

There are a number of federal HCPs completed under section 10(a) of the federal ESA. DNR is monitoring the implementation of these plans via the forest practices application process. Plum Creek Timber Company, Port Blakely Tree Farms, and Murray Pacific are examples of large timber companies implementing their respective HCPs that include aquatic habitat protection measures. Simpson Timber has recently completed a combined HCP and TMDL which is currently under public review.

The description of these HCPs follows:

1. Murray Pacific HCP – this 100 year multi-species HCP covers 54,610 acres in Lewis County in southwest Washington. The conservation strategy for aquatic habitat includes:
    - Watershed Analysis on more than 98 percent of the 54,610 acres.
    - Stream restoration measures;
    - Wetland surveys and monitoring peak stream temperatures; and
    - Detailed road inventories to address mass wasting and surface erosion in the watersheds;
    - Habitat reserves established on 10 percent of the vegetated land;
    - Retention of snags, downed woody debris, minimizing soil disturbance during harvest in forested wetlands, keeping skid trails and ground-based yarding systems to a minimum in forested wetlands, and harvest in a pattern to promote and maintain dispersal habitat for birds;
    - Monitoring to verify and validate the effectiveness of the HCP conservation measures.

2. Port Blakely HCP – this 50 year multi-species HCP covers 7,486 acres in Grays Harbor and Pacific counties near the southwest coast of Washington. The conservation strategy benefiting aquatic habitat includes:
   - Adjusted harvest levels to accommodate a wider range of forest successional stages benefiting fish and wildlife species;
   - Special management practices to better enhance habitat;
   - Protecting stream areas. Techniques to address unstable slopes, surface erosion, stream shading, and other factors crucial to stream habitat spelled out in the Port Blakely mitigation measures approved by NMFS and USFWS;
   - Special protection measures for marbled murrelets, spotted owls, and northern goshawks;
   - Two-part monitoring plan. First, compliance monitoring to evaluate and document the company's performance under the plan and second, effectiveness monitoring to determine how well these conservation measures work.

2. Plum Creek HCP – this 50 year multi-species HCP covers 418,690 acres in the central Cascades of Washington state. The conservation strategy benefiting aquatic habitat includes:
   - Riparian Habitat Area (RHAs) designation and protection is a corner stone of the HCP. RHAs and associated wetlands account for 12,000 acres of the Plum Creek HCP;
   - A five part mitigation strategy designed for the RHAs:
   - Stabilization of stream channels and the natural functioning of the physical stream processes;
   - Adequate accumulation of large woody debris in stream channels;
   - Adequate vegetation to minimize pollution from up-slope activities and maintain adequate stream shading;
   - Adequate nesting, roosting, and foraging and dispersal habitat for spotted owls;
   - A diversity of riparian habitat for riparian dependent life-forms;
   - Additional mitigation measures include watershed analysis on 20 watersheds within the first five years of the plan;
   - Further conservation measures include maintaining a diversity of stand structures, protection of special habitats, and curtailing yarding activities in sensitive areas;
   - The monitoring commitment for yearly habitat verification on stand structures, life-forms, and surveys for amphibians to adaptive management techniques as necessary.

3. Simpson Timber HCP/TMDL – this 50-year aquatic?? HCP and TMDL covers ____ acres in the southern Olympic Peninsula of Washington state. This is the first combined HCP and TMDL to be completed in the nation. It points the way to the many opportunities and pitfalls that accompany a project of this magnitude. The conservation strategy benefiting aquatic habitat includes:

SOURCE CONTROL STRATEGY FOR FOREST MANAGEMENT

The Forest Practices Act governs all practices relating to the:

- Construction and maintenance of forest roads
- Conduct of forest harvesting including limits on the size, location, and timing of harvest
- Required reforestation
- Specific riparian and wetland protection measures
- Conduct of watershed analysis
- Limitations on the timing and location of applying forest chemicals
- Application of SEPA
- Enforcement authority of DNR

Forestry in Washington is governed by the Forest Practices Act. The act established a Forest Practices Board which adopts regulations related to all aspects of forest practices from pre-harvest planning, through actual harvest, and including restoration and reforestation. The board has 12 members. Ecology is a member of the board and must concur with any rule developed by the Board that addresses water quality protection.

A permit from DNR is required for any timber harvest on forestlands in the state meeting certain criteria. DNR reviews and conditions approximately 12,000 permits annually across the state. They regularly inspect operations and enforce all rules related to forest practices. Ecology takes enforcement action if the violation results in a discharge to a water body. The two agencies coordinate their enforcement actions directly through each regional office.

The forest practices laws and regulations are intended to be fully sufficient to manage forest management on State and private forest lands. Although other laws, such as the State Environmental Policy Act (Chapter 43.21C RCW), Hazardous Waste Management Act (Chapter 70.105 RCW), Shoreline Management Act (Chapter 90.58), and Water Pollution Control Act (Chapter 90.48 RCW), also may have jurisdiction over certain activities of the forestry industry, deference is generally given to the Forest Practices Act. The requirements of the act are sufficient to the implementation of the management measures. Therefore, additional laws will not be presented in this section. Regulations are presented in this section as paraphrase, but for exact language, the WAC itself should be consulted.

The Forest Practices Act is an important law specifically designed to regulate activities that are nonpoint in nature. The act has enabled the Forest Practices Board to pass a series of enforced rules and regulations making for one of the most comprehensive sets of forest practices in the country. The Board has updated forest practices steadily since the adoption of environmental protection aspects of the Forest Practices Act in 1974. The forest practices rule packages of 1987, 1992, and the most recently completed

negotiations commonly known as the "Forests and Fish" report (F&F), were all designed specifically to improve permitted forest practices relating to fish habitat and water quality protection.

NONPOINT POLLUTION ASSOCIATED WITH FOREST PRACTICES

The effects of forest practices on water quality are well documented, but information on individual stream segments is not readily available. With the exception of the Nooksack Basin near Bellingham and the White River near Enumclaw, few recent water quality studies have concentrated on forested areas, although improper forest practices have been shown to degrade water quality in downstream receiving waters. Increased sedimentation and water temperatures are the greatest areas of concern, particularly as they relate to fish listed under ESA. Loss of wood in stream channels has resulted in degraded water quality and habitat.

Forest practices with the greatest potential effects on water quality include road construction, maintenance, and timber harvesting activities adjacent to and within streams. Other sources of water pollution are road wash, erosion of exposed soils, gully erosion from inadequate drainage controls, stream bank disturbance, and mass soil failures triggered by these practices. The ability of sensitive sites, such as forested wetlands, to regenerate is a concern in some cases. Slash burning can produce large amounts of ash and release nutrients that can be carried to streams.

The need to improve Washington's forestry program to protect water quality and beneficial uses has been documented by federal and State agencies. According to Ecology's 303(d) lists and Section 305(b) water quality assessments, many waters in the coastal zone are not meeting water quality standards, largely or wholly due to forest practices. The Timber, Fish, and Wildlife Cooperative Monitoring and Research Committee has completed several studies, described below, on the effectiveness of Washington's Forest Practice Rules. These studies have concluded that the rules are often ineffective in meeting water quality standards or protecting beneficial uses. For example, inadequate riparian width prescriptions have resulted in detrimental changes in the temperature regime of streams, and streamside management zones are not wide enough to prevent water quality standard violations due to aerial applications of pesticides.

In October 1996, DNR completed an Environmental Impact Statement (EIS) on a 1.63 million acre Habitat Conservation Plan which included about 133,500 acres of riparian habitat on State-owned timber lands in western Washington. The EIS found that riparian management zone widths under Washington Forest Practice Rules are insufficient to fully protect riparian ecosystems, particularly on Type 3 and 4 waters (small non-fish bearing streams). It also found that the "lack of a comprehensive road management plan" under current practices could "result in high road densities and consequent sediment runoff." Several studies (Cedarholm and Reid, 1987 and Schlichte et al., 1991) in two DNR drainages indicates that roads are a significant source of sediment that reaches streams.

Another published analysis of the effectiveness of the Washington Forest Practices Rules in protecting riparian ecosystems is the Forestry Impacts on Freshwater Habitat of Anadramous Salmonids in the Pacific Northwest--Requirements for Protection and Restoration (Murphy, 1995). In Chapter 8, the author presents a comparative analysis of several states and federal forest management rules, and concludes that several deficiencies exist in Washington's rules. Shade requirements for non-fish perennial streams may be inadequate because timber harvest does not necessarily maintain sufficient natural vegetation. Long-term recruitment of large woody debris is expected to be substantially below amounts present in mature conifer stands. Buffers for small non-fish streams appear to be minimal or inadequate for sediment protection.

In a memorandum (February 20, 1997) to EPA, Region 10, the Northwest office of the National Marine Fisheries Service (NMFS) concluded that the management of industrial forest lands conducted under the current Forest Practices Act (Chapter 76.09 RCW) is generally inadequate to protect riparian ecosystems and their anadramous salmonids to meet Endangered Species Act (ESA) requirements.

In summary, current practices are not sufficient to address water quality and beneficial uses. In particular, the beneficial uses of salmon breeding and habitat are adversely affected by detrital inputs, water temperature, stream bank stability, sediment loading and inadequate large woody debris recruitment. Section 6217 states that when implementation of the (g) measures alone are not adequate to achieve and maintain applicable water quality standards and protect beneficial uses, the State must identify and implement additional management measures. Thus, Washington will need to adopt additional management measures for forestry.

1998 FINDING BY NOAA AND EPA

EPA and NOAA reviewed Ecology's submittal in 1995 and had the following response to the description of the Forest Practices Program in Washington State:

Finding:
Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses.

Rationale:
The existing State authority to regulate forestry (the Washington Forest Practices Act--FPA, chapter 76.09 RCW) is a comprehensive, enforceable program that includes management measures in conformity with the 6217(g) guidance. Any operator conducting a forest operation must comply with the FPA and implementing rules.

Although Washington has the basic legal and programmatic tools to implement a forestry program in conformity with Section 6217, these tools have not been fully effective in ensuring that water quality standards are attained and maintained and beneficial uses protected. Washington waters currently experience significant impacts from forestry: for example, increased temperature, fine sediment deposition, insufficient recruitment of large woody debris, stream bank instability and water quality standard violations for pesticides. Washington has a number of species, in particular salmon, that are endangered, threatened, or otherwise seriously at risk due in significant part to forestry activities that impair coastal water quality and beneficial uses, including salmon spawning, breeding, and rearing habitat.

Section 6217 recognizes that implementation of the (g) measures alone may not always be adequate to protect coastal waters from nonpoint sources of pollution. In these cases, Section 6217 requires the identification and implementation of additional management measures. Thus, Washington will need to adopt additional management measures for forestry in areas adjacent to
coastal waters not attaining or maintaining applicable water quality standards or protecting beneficial uses, or that are threatened by reasonably foreseeable increases in pollutant loadings from new or expanding forestry operations. (See section XI, page 12). Some of the waterbodies may not currently meet water quality standards due to historical rather than current practices. This fact will be considered in the development and evaluation of additional management measures. In addition, NOAA and EPA recognize that there are currently on-going discussions within the State concerning upgrading forest practices that may impact the development and identification of additional management measures.

EFFORTS TO IMPROVE FOREST PRACTICES PROGRAMS IN WASHINGTON

In the conditional approval to the CZARA 6217 submission, EPA and NOAA approved Washington's Forestry Management Measures. These include the following:

1. Preharvest Planning
2. Streamside Management Areas
3. Road Construction
4. Road Management
5. Timber Harvesting
6. Site Preparation*
7. Fire Management*
8. Re-vegetating Disturbed Areas*
9. Forest Chemicals
10. Forest Wetlands*

In addition to complying with these management measures, EPA and NOAA required the State to identify additional management measures for forestry to meet water quality standards and fish needs.

Washington believes that no additional management measures are needed for the items shown with an "*". The future development work to improve the program will focus on the management measures for:

- **Preharvest Planning,**
- **Streamside Management Areas,**
- **Road Construction,**
- **Road Management,**
- **Timber Harvesting, and**
- **Forest Chemicals.**

The following processes will be used to meet the additional management measure requirements in the findings for the areas listed above, as well as meeting other state-identified needs.

Forest and Fish Report and Legislation

Forest management in Washington is currently undergoing a major overhaul to bring the program into compliance with the Clean Water and Endangered Species Acts. Though the current regulatory structure is one of the most restrictive in the country, field data indicated a need for refinement of controls on forestry activities.

One outcome of this effort is the “Forests and Fish Report” (F&F). It is the result of over 18 months of negotiations between small and large landowners, many treaty tribes, federal, and State agencies, and counties. The report is an integral element of the State's Salmon Recovery Plan focusing on habitat needs for salmon in forested areas across the state. The F&F also provided a basis for meeting CWA 303(d) obligations on forest lands for the first 10 years of implementation. Progress toward water quality will be re-

evaluated at that time to determine the need for development of TMDLs. The report includes a commitment to complete TMDLs if needed.

It is the State's intent that the practices in the Forests and Fish Report meet the conditions of salmon recovery and water quality. House Bill 2091 in the 1999 session of the Washington Legislature adopted the findings of the report. The legislature provided approximately $4.5 million in funding for implementation. In addition, the Salmon Recovery Funding Board has allocated $4.0 million for agencies to implement provisions of ESHB 2091.

Additional state and federal funding for small landowner assistance is still under discussion. The F&F report outlines a program of incentives needed to assist small landowners by providing partial compensation for the lost economic opportunity in the riparian "leave" areas. A supplemental budget request is being prepared for the 2000 legislature that, if approved, will provide compensation for small landowners for lost opportunities associated with the F&F rules.

Since a funding package could not be arranged during the 1999 legislative session, landowners with less than 20 acres of timber land are currently exempted by ESHB 2091 from the F&F rules for riparian protection. All other landowners are expected to comply with the F&F rules. The emergency rules to begin implementing F&F will be adopted in January, 2000. They will require landowners with less than 20 acres to provide riparian protection that exceeds the current rules by approximately 15 percent.

The National Marine Fisheries Service (NMFS) and EPA are participating in the development of the implementing rules described in the Fish and Forest Report. NMFS has included these provisions in their 4(d) rule for salmon released on December 15, 1999. EPA is still considering the assurances provided in the ESHB 2091 and F&F and how they will lead to agreements on the CWA.

ESHB 2091 directs the Forest Practices Board to pass emergency rules to implement the F&F immediately. Emergency rules are currently scheduled for adoption in January, 1999. ESHB 2091 also directs the FPB to have final rules adopted by June 2001. An EIS is currently being written that evaluates the F&F findings and a public review will take place after the EIS is completed. The permanent rules will be adopted and implemented within the next five year scope of this current Nonpoint Source Management Plan.

The State’s salmon recovery strategy includes a component for improving water quality and habitat through more environmentally advanced forest practices. Recommendations to implement these forest practices are found in the “Forests and Fish Report." The Forest Practices Board has adopted the report as its preferred alternative as it analyzes options for rule changes to meet CWA and ESA needs. Recommendations in this report suggest the following changes be made in the forest practices rules (Title 222 WAC):

Riparian Management Areas will be widened to as much as 200 feet:

Riparian Management Areas (RMAs) will now be based on the potential tree height of the surrounding forest. Harvest will be prohibited within 50 feet adjacent to either side of a stream. Limited harvest will be allowed from 50 feet to the outer limit of the riparian area, as determined by the potential tree height. Yarding methods in RMAS should be modified to protect streams and stream corridors.

Harvest on Unstable Slopes will require a thorough environmental review:

These harvests will be considered Class IV-Special harvests. Review under the State Environmental Policy Act (SEPA) will be required for the specific harvest. Based on the SEPA review, DNR may require the development of an Environmental Impact Statement; mitigation for sedimentation, mass wasting, or other adverse environmental effects; and/or deny the harvest application.

Road Maintenance and Abandonment:

Five-year Road Maintenance and Abandonment Plans will be prepared and implemented by landowners. Plans will inventory and assess roads and identify roads that need routine or ongoing maintenance, repair, or abandonment. Each year, landowners will submit specific plans for maintenance or abandonment of at least 20 percent of the roads on their property.

Watershed Analysis updates:

Emergency and permanent rules will adopt changes to watershed analysis including the following:

- The modules for riparian and roads will be modified to maintain the assessment phase but to eliminate the need for prescriptions.
- New modules for restoration, monitoring and cultural resources will be cooperatively developed.
- Landowners who are renewing their watershed analyses will only be required to address the modules used in the original analysis.
- The Water Quality Module will be upgraded to meet Clean Water Act requirements.
- The Hydrology and Fish modules will be revised and updated to address process improvements, technical upgrades and bull trout.
- The new regulations for riparian management zones will supercede existing watershed analysis prescriptions. Existing road plans will be upgraded to meet new requirements.
- DNR may issue 5 year permits for areas covered in a watershed analysis.
- DNR will not make a determination of significance in their SEPA threshold decision on watershed analyses unless the rules or prescriptions will cause probable significant adverse impacts.

Additional protections suggested include:

- additional drift control in aerial application of pesticides
- additional provisions to safeguard wetlands and other environmentally sensitive sites (e.g. unstable slopes and seeps)

The report also suggests certain administrative changes:

- provision for the development of alternate harvest and forest management plans
- special conditions for small forest landowners
- issuance of multi-year permits
- more targeted and effective enforcement
- use of adaptive management
- targeting of research to address management issues
- adding a representative from the WDFW to the Forest Practices Board
- establishment of an office for small landowners for assistance
- establishment of an easement program for small landowners

Salmon Recovery Plan - Early Actions

The F&F and ESHB 2091 are key components to the state's Salmon Recovery Efforts. The following "early" actions are commitments for the FY1999-2001 time period from the Joint Natural Resources Cabinet. They constitute the first two years of implementation activities submitted to NMFS and are designed to address salmon recovery needs. In addition, these actions provide important commitments to improving water quality and cleaning up nonpoint source pollution from forest management.

- Implement recommendations in the Forests and Fish Report, adopting and enforcing appropriate regulations

- Develop and implement recommendations on integration of the Forest Practices permits and Hydraulic permits to implement the requirements of Chapter 247, Laws of 1999 (ESESHB 2091)

- Conduct effectiveness monitoring to support the Forests and Fish Report recommendations

- Complete Habitat Conservation Plan on forestry module

- Update watershed analysis manual, facilitate conducting watershed analyses and approve watershed analysis permits

- Review and approve road maintenance and abandonment plans

- Carry out functions of the Small Forest Landowners' Office

- Enhance statewide monitoring of rate of harvest, riparian zone management, etc. consistent with the Forests and Fish Report

- Complete water typing projects and GIS mapping and data management upgrade.

Other actions to improve the forestry program

- Finalize the MOA between USFS and Ecology to address water quality compliance
- Approve transfer of Class IV general forest practices permits to local governments
- Educate small forest landowners on water quality and ESA issues, and new rules
- Investigate a comprehensive stormwater control process that involves purchase of development rights from small forest landowners in urban growth areas.
- Establish a State policy to allow timber leases for conservation purposes.

Forestry Management Measure Number IIA: Preharvest Planning

Description from Federal Guidance

Perform advance planning for forest harvesting that includes the following elements where appropriate:

1. Identify the area to be harvested including location of water bodies and sensitive areas such as wetlands, threatened or endangered aquatic species habitat areas, or high-erosion-hazard areas (landslide-prone areas) within the harvest unit.
2. Time the activity for the season or moisture conditions when the least impact occurs.
3. Consider potential water quality impacts, and erosion and sediment control in the selection of silvicultural and regeneration systems, especially for harvesting and site preparation.
4. Reduce the risk of occurrence of landslides and severe erosion by identifying high-erosion-hazard areas and avoiding harvesting in such areas.
5. Consider additional contributions from harvesting or roads to any known existing water quality impairments or problems in watersheds of concern.

Perform advance planning for forest road systems that includes the following elements where appropriate:

1. Locate and design road systems to minimize, to the extent practicable, potential sediment generation and delivery to surface waters. Key components are:
   - locating roads, landings, and skid trails to avoid steep grades and steep hillslope areas, and to decrease the number of stream crossings;
   - avoiding locating new roads and landings in Streamside Management Areas; and
   - determining road usage and selecting the appropriate road standard.
2. Locate and design temporary and permanent stream crossings to prevent failure and control impacts from the road system. Key components are: (a) size and site crossing structures to prevent failure and (b) design crossings to facilitate fish passage.
3. Ensure that the design of road prism and surface drainage is appropriate to the terrain and that road surface design is consistent with the road drainage structures.
4. Use suitable materials to surface roads planned for all-weather and truck traffic.
5. Design road systems to avoid high erosion or landslide hazard areas. Identify these areas and consult a qualified specialist for design of any roads that must be constructed through these areas.

Each state should develop a process (or utilize an existing process) that ensures that the management measures in this chapter are implemented. This should include appropriate notification, compliance audits, or other mechanisms for forestry activities with the potential for significant adverse nonpoint source effects based on the type and size of operation and the presence of stream crossings or SMAs.

1998 Finding from EPA and NOAA

"Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-24 WAC, Road Construction and Maintenance
Chapter 222-30 WAC, Timber Harvesting

Description of Current Programs in Washington

The requirements for advance planning of a proposed timber harvest can be found in WAC 222-30-020: Harvest Unit Planning and Design:

- Plans are to be appropriate to the terrain and conditions of the harvest area to minimize environmental impacts that can be economically accomplished. Landings should be located so as to not impact water bodies within the harvest area.
- Landings should be constructed with minimum excavation necessary and, in areas of steep slopes, fill may not contain stumps or other debris.
- Landings should also be constructed so as to drain water properly back onto the forest floor.
- Excavation material should not be sidecast within the 50-year floodplain of major streams.

The requirements for road planning can be found in WAC 222-24-020 Road Location and WAC 222-24-025 Road Design. These regulations require that roads:

- avoid water bodies, wetlands, canyons, and steep slopes
- minimize stream crossings, and cross streams perpendicular to the flow
- minimize excess excavation materials
- provide outsloping or ditching on the uphill side of the road, with frequent drains across the road to minimize sediment delivery
- if ditches slope to a major stream, water should be diverted to the forest floor for absorption

The Department of Natural Resources enforces these rules by requiring a permit prior to timber harvest, inspecting harvest sites, and taking enforcement action as required. In addition, if a water quality violation occurs from a discharge from a forest road, Ecology may also take enforcement action.

Additional needs to meet this management measure

The requirements for timber harvest and road construction need to be updated to provide improved water quality and fish habitat protection.

Actions to satisfy this management measure

Additional Management Measure: The Forest Practices Board will implement ESHB 2091 incorporating into rule the findings of the Fish and Forest Report related to pre-harvest planning, specifically as it relates to roads and harvest unit layout.

Forestry Management Measure Number IIB: Streamside Management Areas (SMAs)

Description from Federal Guidance

Establish and maintain a streamside management area along surface waters which is sufficiently wide and which includes a sufficient number of canopy species to buffer against detrimental changes in the temperature regime of the water body, to provide bank stability, and to withstand wind damage. Manage the Streamside Management Area in such a way as to protect against soil disturbance in the Streamside Management Area and delivery to the stream of sediments and nutrients generated by forestry activities, including harvesting. Manage the Streamside Management Area canopy species to provide a sustainable source of large woody debris needed for instream channel structure and aquatic habitat.

1998 Finding from EPA and NOAA

"Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-30 WAC, Timber Harvesting

Description of Current Programs in Washington

Riparian management zones are established in Chapter 222-30 WAC, Timber Harvesting. The purpose of these zones is stated in WAC 222-30-010:

> "The riparian management zone requirements specified in this section are designed to provide protection for water quality and fisheries and wildlife habitat through ensuring present and future supplies of large organic debris for streams, snags, canopy cover, and a multistoried diverse forest adjacent to Type 1, 2 and 3 Waters."

WAC 222-30-020 (3) & (4) establish these requirements for the management of "riparian management zones" which are the same as streamside management zones described in this management measure. Subsection (3) establishes the requirements for harvests in western Washington, subsection (4) for eastern Washington. These regulations specify a minimum and maximum riparian buffer width, and number, size and types of trees to be left unharvested in order to protect the water quality and habitat for all permanent flowing streams in the harvest area. The specifics of these parameters are factors such as location of harvest, size of harvest, and size of streams present. Smaller flowing waters with

gradients greater than 20 percent may also have required riparian zones on a case by case basis. Locations and descriptions of riparian zones must be submitted as part of the permit application. Enforcement of the riparian zone standards can be initiated by either DNR or Ecology.

Additional needs to meet this management measure

The requirements for riparian area protection need to be updated to provide improved water quality and fish habitat protection.

Actions to satisfy this management measure

Additional Management Measure: The Forest Practices Board will implement ESHB 2091 incorporating into rule the findings of the Fish and Forest Report related specifically to riparian management (SMAs).

Forestry Management Measure Number IIC:
Road Construction

Description from Federal Guidance

1. Follow preharvest planning (as described under Management Measure A) when constructing or reconstructing the roadway.
2. Follow designs planned under Management Measure A for road surfacing and shaping.
3. Install road drainage structures according to designs planned under Management Measure A and regional storm return period and installation specifications. Match these drainage structures with terrain features and with road surface and prism designs.
4. Guard against the production of sediment when installing stream crossings.
5. Protect surface waters from slash and debris material from roadway clearing.
6. Use straw bales, silt fences, mulching, or other favorable practices on disturbed soils on unstable cuts, fills, etc.
7. Avoid constructing new roads in SMAs to the extent practicable.

1998 Finding from EPA and NOAA

"Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-24 WAC, Road Construction and Maintenance

Description of Current Programs in Washington

The following sections in Chapter 222-24 WAC, Road Construction and Maintenance implement this management measure:

-020: Road Location:

- avoid water bodies, wetlands, canyons, and steep slopes
- minimize stream crossings, and cross streams perpendicular

-025: Road Design

- minimize excess excavation materials
- provide outsloping or ditching on the uphill side of the road, with frequent drains across the road to minimize sediment delivery
- if ditches slope to a major stream, water should be diverted to the forest floor for absorption

-030: Road Construction

- compact road fill, including limiting debris in fill
- stabilize soils exposed by construction
- construct roads during times and climatic conditions to minimize erosion

-035: Landing Location and Construction

- locate so as to preserve resources
- keep size as small as possible
- construct with minimum excavation in areas of steep slopes, fill may not contain stumps or other debris.

-040: Water Crossing Structures

- bridges: higher than 50 year flood, approaches must be protected from erosion during high water
- culverts: carry 50 year flood, outfall must be hardened, minimum culvert size established according to type of fish present
- culverts in anadromous fish streams: must be installed 6" below stream bed with bottom covered with gravel, and normal stream flow maintained
- temporary crossings: summertime only, must be removed by September 30 (western Washington) or snow buildup (eastern Washington)

These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

The requirements for road construction need to be updated to provide improved water quality and fish habitat protection.

Actions to satisfy this management measure

Additional Management Measure: The Forest Practices Board will implement ESHB 2091 incorporating into rule the findings of the Fish and Forest Report related specifically to road construction.

Forestry Management Measure Number IID:
Road Management

Description from Federal Guidance

1. Avoid using roads where possible for timber hauling or heavy traffic during wet or thaw periods on roads not designed and constructed for these conditions.
2. Evaluate the future need for a road and close roads that will not be needed. Leave closed roads and drainage channels in a stable condition to withstand storms.
3. Remove drainage crossings and culverts if there is a reasonable risk of plugging or failure from lack of maintenance.
4. Following completion of harvesting, close and stabilize temporary spur roads and seasonal roads to control and direct water away from the roadway. Remove all temporary stream crossings.
5. Inspect roads to determine the need for structural maintenance. Conduct maintenance practices, when conditions warrant, including cleaning and replacement of deteriorated structures and erosion controls, grading or seeding of road surfaces, and, in extreme cases, slope stabilization or removal of road fills where necessary to maintain structural integrity.
6. Conduct maintenance activities, such as dust abatement, so that chemical contaminants or pollutants are not introduced into surface waters to the extent practicable.
7. Properly maintain permanent stream crossings and associated fills and approaches to reduce the likelihood (a) that stream overflow will divert onto roads, and (b) that fill erosion will occur if the drainage structures become obstructed.

1998 Finding from EPA and NOAA

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Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-24 WAC, Road Construction and Maintenance

Description of Current Programs in Washington

WAC 222-24-050: Road Maintenance contains road management requirements, road abandonment procedures, culvert maintenance, brush control and road surface treatments. Landowners may also be required to submit road maintenance plans in cases where water quality or other public resources are threatened. Plans must be designed and implemented to remove the threat to public resources and reviewed annually by DNR. Under existing emergency rules, road maintenance and abandonment plans are required for certain forest practices within geographic areas with ESA listed fish. These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

The requirements for road maintenance need to be updated to provide improved water quality and fish habitat protection.

Actions to satisfy this management measure

Additional Management Measure: The Forest Practices Board will implement ESHB 2091 incorporating into rule the findings of the Fish and Forest Report related specifically to road maintenance programs.

Forestry Management Measure Number IIE:
Timber Harvesting

Description from Federal Guidance

The timber harvesting management measure consists of implementing the following:

1. Timber harvesting operations with skid trails or cable yarding follow layouts determined under Management Measure A.
2. Install landing drainage structures to avoid sedimentation to the extent practicable. Disperse landing drainage over sideslopes.
3. Construct landings away from steep slopes and reduce the likelihood of fill slope failures. Protect landing surfaces used during wet periods. Locate landings outside of SMAs.
4. Protect stream channels and significant ephemeral drainages from logging debris and slash material.
5. Use appropriate areas for petroleum storage, draining, dispensing. Establish procedures to contain and treat spills. Recycle or properly dispose of all waste materials.

For cable yarding:

1. Limit yarding corridor gouge or soil plowing by properly locating cable yarding landings.
2. Locate corridors for SMAs following Management Measure B.

For groundskidding:

1. Within SMAs, operate groundskidding equipment only at stream crossings to the extent practicable. In SMAs, fell and endline trees to avoid sedimentation.
2. Use improved stream crossings for skid trails which cross flowing drainages. Construct skid trails to disperse runoff and with adequate drainage structures.
3. On steep slopes, use cable systems rather than groundskidding where groundskidding may cause excessive sedimentation.

1998 Finding from EPA and NOAA

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Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-24 WAC, Road Construction and Maintenance
Chapter 222-30 WAC, Timber Harvesting

Shoreline Management Act (Chapter 90.58.150 RCW)

Description of Current Programs in Washington

The following section of Chapter 222-24 WAC, Road Construction and Maintenance apply to the implementation of this management measure:

-035: Landing Location and Construction
- locate so as to preserve resources
- keep size as small as possible
- construct with minimum excavation in areas of steep slopes, fill may not contain stumps or other debris.

The following sections of Chapter 222-30 WAC, Timber Harvest apply to the implementation of this management measure:

-020: Harvest Unit Planning and Design
- establishes overall guidance for locations of roads and landings
- establishes standards for riparian management zones, wetlands management zones, sets sizes for these zones and limits harvest within the zones
- establishes harvest limits to protect wildlife habitat

-025: Even-aged Harvesting
- provides that harvest units be designed so that trees harvested have a diversity of age representative of the forest from which they are taken

-030: Stream Bank Integrity
- provides that disturbance of trees and shrubs embedded in streambanks should be avoided
- provides that precautions should be taken so that felled trees do not enter the waters of streams in the harvest area

-040: Shade Requirements to Maintain Stream Temperature
- limits harvest in riparian areas so that sufficient shade continues after harvest to maintain stream temperature

-050: Felling and Bucking

- if unavoidable, the felling of trees into certain waters is allowed, if a hydraulic permit under Chapter 79.20 RCW is first obtained
- bucking of trees is to be limited to areas outside the riparian management zone, wetlands management zone, and within the harvest unit

-060: Cable Yarding

- cable yarding is limited in riparian zones and wetlands, and all yarding in these areas is to have prior approval by the state
- cable yarding is preferred in an uphill direction
- harvested trees should not be allowed to roll into or otherwise disturb streams and streambanks in the harvest unit

-070: Tractors and Wheeled Skidding Systems

- state approval is required for use of these systems in riparian zones and wetlands
- skidding damage to residual timber should be avoided
- skid trails should be of minimum width, not placed on steep slopes, and water barred at the end of any seasonal use
- ground based equipment use is limited during wet soil conditions

-080: Landing Cleanup

- clean up within 60 days of end of operation
- water drainages to be cleared of all obstructions
- exposed soils seeded in grass, clover or other ground cover
- all metal or inorganic debris from harvest operation to be removed

-110: Timber Harvesting on Islands

- limits harvest unit to 40 acres
- future harvest prohibited until 10 years after reforestation of previous harvest for each landowner

In addition, the Shoreline Management Act limits the amount of timber that can be harvested from a forested area adjacent to a Shoreline of Statewide Significance. Only selective harvesting techniques are allowed and no more than 30 percent of the merchantable trees can be removed in any 10-year period. These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

None

Actions to satisfy this management measure

Adequate programs exist to meet this management measure and no additional requirements are needed.

Forestry Management Measure Number IIF:
Site Preparation

Description from Federal Guidance

Confine on-site potential NPS pollution and erosion resulting from site preparation and the regeneration of forest stands. The components of the management measure for site preparation and regeneration are:

1. Select a method of site preparation and regeneration suitable for the site conditions.
2. Conduct mechanical tree planting and ground-disturbing site preparation activities on the contour of sloping terrain.
3. Do not conduct mechanical site preparation and mechanical tree planting in streamside management areas.
4. Protect surface waters from logging debris and slash material.
5. Suspend operations during wet periods if equipment used begins to cause excessive soil disturbance that will increase erosion.
6. Locate windrows at a safe distance from drainages and SMAs to control movement of the material during high runoff conditions.
7. Conduct bedding operations in high-water-table areas during dry periods of the year. Conduct bedding in sloping areas on the contour.
8. Protect small ephemeral drainages when conducting mechanical tree planting.

"1998 Finding from EPA and NOAA

Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-30 WAC, Timber Harvesting
Chapter 222-34 WAC, Reforestation

Description of Current Programs in Washington

The following sections of Chapter 222-30 WAC, Timber Harvest apply to the implementation of this management measure:

-090: Post-harvest Site Preparation

- harvest site to be left in a condition suitable for reforestation, except under certain conditions
- competing vegetation must be slashed, except in riparian and wetlands zones
- slash may be piled, windrowed or mechanically scattered
- harvest site may have a controlled broadcast burn in lieu of slash

-100: Slash Disposal or Prescribed Burning

- slash disposal methods listed,
- slash disposal limited in riparian areas and wetlands
- slash burning requires permit
- slash reduction may be required if fire hazard present
- all slash should be removed below 50 year flood level for streams in the harvest area
- fire trails should be of minimum size, have installed erosion control, not be located below the 50 year flood level
- fire trails in riparian areas and wetlands require state approval

In addition, WAC 222-34-040:

- limits the use of heavy equipment in site preparation for reforestation to reduce sediment delivery to adjacent water bodies
- limits design and construction of ditches and drainages so as to not cause siltation, adversely affect any water right, or cause any damage or instability of either stream or stream banks downstream of the harvest unit

These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

None.

Actions to satisfy this management measure

Adequate programs exist to meet this management measure and no additional requirements are needed.

Forestry Management Measure Number IIG:
Fire Management

Description from Federal Guidance

Prescribe fire for site preparation and control or suppress wildfire in a manner which reduces potential nonpoint source pollution of surface waters:

1. Intense prescribed fire should not cause excessive sedimentation due to the combined effect of removal of canopy species and the loss of soil-binding ability of subcanopy and herbaceous vegetation roots, especially in SMAs, in streamside vegetation for small ephemeral drainages, or on very steep slopes.
2. Prescriptions for prescribed fire should protect against excessive erosion or sedimentation to the extent practicable.
3. All bladed firelines, for prescribed fire and wildfire, should be plowed on contour or stabilized with water bars and/or other appropriate techniques if needed to control excessive sedimentation or erosion of the fireline.
4. Wildfire suppression and rehabilitation should consider possible NPS pollution of watercourses, while recognizing the safety and operational priorities of fighting wildfires.

1998 Finding from EPA and NOAA

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Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-30 WAC, Timber Harvesting

Description of Current Programs in Washington

WAC 222-30-100 provides standards for prescribed burning and the construction and maintenance of fire trails. Requirements in this section include:

- slash burning requires permit
- slash reduction may be required if fire hazard present
- fire trails should be of minimum size, have installed erosion control, and not be located below the 50 year flood level
- fire trails in riparian areas and wetlands require state approval

Additional needs to meet this management measure

None.

Actions to satisfy this management measure

Adequate programs exist to meet this management measure and no additional requirements are needed.

Forestry Management Measure Number IIH:
Revegetating Disturbed Areas

Description from Federal Guidance

Reduce erosion and sedimentation by rapid revegetation of areas disturbed by harvesting operations or road construction:

1. Revegetate disturbed areas (using seeding or planting) promptly after completion of the earth-disturbing activity. Local growing conditions will dictate the timing for establishment of vegetative cover.
2. Use mixes of species and treatments developed and tailored for successful vegetation establishment for the region or area.
3. Concentrate revegetation efforts initially on priority areas such as disturbed areas in SMAs or the steepest areas of disturbance near drainages.

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-24 WAC, Road Construction and Maintenance
Chapter 222-34 WAC, Reforestation

Description of Current Programs in Washington

The following section of Chapter 222-24 WAC, Road Construction and Maintenance, applies to this management measure:

-030: Road Construction

- unstable or erodible exposed soils associated with road construction must be seeded with grass, clover or other ground cover. Special care must be taken around wetlands to avoid introduction of non-native species.

The following sections of Chapter 222-34 WAC, Reforestation, apply to this management measure:

-010: Required Reforestation--West of Cascades Summit

- minimum of 190 seedlings per acre
- reforestation to occur within three years of harvest, up to ten years if harvest unit is part of a natural regeneration plan approved by DNR
- competing vegetation must be controlled to ensure survival of trees
- trees used in reforestation must be of the same types and distribution of those harvested

-020: Required Reforestation--East of Cascades Summit

- minimum of 150 seedlings per acre
- other requirements are the same as for western Washington in section -010

-030: Reforestation--Plans--Reports--Inspections

- reforestation plans to be submitted with harvest permit application
- reports to be submitted immediately and two years after reforestation
- DNR to inspect reforestation within 12 months of receipt of report
- supplemental plantings may be required

-050: Urban and Other Lands Exempted from the Reforestation Requirements

- lands declared by owner to be converted to urban uses
- utility rights of way
- public lands to be converted to other uses within 10 years

These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

None.

Actions to satisfy this management measure

Adequate programs exist to meet this management measure and no additional requirements are needed.

Forestry Management Measure Number II-I:
Forest Chemicals

Description from Federal Guidance

Use chemicals when necessary for forest management in accordance with the following to reduce nonpoint source pollution impacts due to the movement of forest chemicals off-site during and after application:

1. Conduct applications by skilled and, where required, licensed applicators according to the registered use, with special consideration given to impacts to nearby surface waters.
2. Carefully prescribe the type and amount of pesticides appropriate for the insect, fungus, or herbaceous species.
3. Prior to applications of pesticides and fertilizers, inspect the mixing and loading process and the calibration of equipment, and identify the appropriate weather conditions, the spray area, and buffer areas for surface waters.
4. Establish and identify buffer areas for surface waters. (This is especially important for aerial applications.)
5. Immediately report accidental spills of pesticides or fertilizers into surface waters to the appropriate state agency. Develop an effective spill contingency plan to contain spills.

1998 Finding from EPA and NOAA

"Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-38, Forest Chemicals

Description of Current Programs in Washington

The following sections of Chapter 222-38, Forest Chemicals, relate to the implementation of this management measure:

-010: Policy--Forest Chemicals

- states purpose for regulations:

  > "The purpose of these regulations is to regulate the handling, storage and application of chemicals in such a way that the public health, lands, fish, wildlife, aquatic habitat, and water quality will not be endangered by contamination."

- WSDA regulations not modified (see agricultural management measure IID)

-020: Handling, Storage, and Application of Pesticides

- according to all other state and federal requirements
- "back siphoning" to be prevented
- hand application only in riparian areas and wetlands
- buffers established for aerial spraying
- drift control required for aerial spraying
- daily reporting of aerial spraying required
- spills to be immediately reported to Ecology

-030: Handling, Storage and Application of Fertilizers

- spillage to water or wetlands to be prevented
- fertilizer spills to be immediately contained
- hand application only in riparian areas and wetlands
- buffers and drift control requirements established for aerial application
- spills entering waters to be immediately reported to Ecology

-040: Handling, Storage and Application of Other Forest Chemicals

- spillage to water or wetlands to be prevented
- spills to be immediately contained
- "back siphoning" to be prevented
- emergency use of fire retardants to control wildfire exempted

These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure

New buffer width requirements that consider changing wind conditions are needed.

Actions to satisfy this management measure

Additional Management Measure: The Forest Practices Board will implement ESHB 2091 incorporating into rule the findings of the Fish and Forest Report related specifically to pesticide application.

Forestry Management Measure Number IIJ:
Forested Wetlands

Description from Federal Guidance

Plan, operate, and manage normal, ongoing forestry activities (including harvesting, road design and construction, site preparation and regeneration, and chemical management) to adequately protect the aquatic functions of forested wetlands.

1998 Finding from EPA and NOAA

"Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses."

Existing Statute(s) and Regulations

Forest Practices Act (Chapter 76.09.040 RCW)
Chapter 222-30 WAC, Timber Harvesting

Description of Current Programs in Washington

As can be noted throughout the forestry management measures, more protective requirements exist for wetlands, such as:

Provisions Related to Wetlands in the Washington State Forest Practices Regulations

WAC 222-	Subject	Provision
24-020	Road Design	Roads must avoid wetlands
24-035	Landing Location	Landings cannot be located in wetlands
30-020	Harvest Unit Planning and Design	Establishes buffers for wetlands Limits harvest in or near wetlands
30-050	Bucking and Felling	Bucking not allowed in wetlands
30-060	Cable Yarding	Requires state approval in wetlands
30-070	Tractors & Wheeled Skidding Systems	Requires state approval in wetlands
30-090	Post-harvest Site Preparation	No slash in wetlands
30-100	Slash Disposal and Prescribed Burning	Fire trails prohibited in wetlands
38-020	Handling, Storage and Application of Pesticides	Mixing & storage in wetlands prohibited Hand application only in wetlands
38-030	Handling, Storage, and Application of Fertilizers	Storage in wetlands prohibited Hand application only in wetlands

These considerations are consistent with state policy as declared in WAC 222-30-010:

> "Wetland areas serve several significant functions in addition to timber production: Providing fish and wildlife habitat, protecting water quality, moderating and preserving water quantity. Wetlands may also contain unique or rare ecological systems."

These regulations are enforced by both Ecology and DNR.

Additional needs to meet this management measure to meet this management measure

None.

Planned actions intended to implement management measures

Adequate programs exist to meet this management measure and no additional requirements are needed.